

IN THE CLAIMS

1. (Currently Amended) A real time video system for outputting to a screen signals for displaying color images that are adjusted for color blindness from original color images encoded in a real time video signal, the video system comprising:

a decoder for decoding the video signal into at least one original color signal associated with a color of the original image;

a compensation processor coupled with the decoder for receiving the original color signal, the compensation processor including a plurality of separate pre-calculated color point remappings that are configured to compensate for different types of color blindness, that are non-modifiable by a user of the video system, and are not customized by the user prior to and after a vision test is performed by the user, the compensation processor structured to remap the original color signal into ~~one or more~~ multiple different color blind compensated signals by remapping color points from the original color signal, for compensating for ~~at least a first type~~ multiple different types of color blindness; and

display circuitry structured to cause the screen to display an image using the original color signal and ~~the one or more~~ simultaneously displaying the same image using the multiple different color blind compensated signals ~~simultaneously~~ thereby displaying multiple versions of the same image at the same time that compensate for different types of color blindness prior to the user providing color blindness information to the compensation processor.

2. (Previously Presented) The system of claim 1, wherein the compensation processor is structured to generate two color blind compensated signals for compensating for the first and a second type of color blindness, and further comprising means for selecting to output one of the first and the second adjusted color signals.

3. (Currently Amended) The system of claim 1, wherein the original color signal is associated with a series of ordered sets of original samples, and wherein each of the color blind compensated color signals is associated with a series of ordered sets of samples adjusted from the original samples according to a ~~first~~ color gamut adjustment predefined for the ~~first type~~ different types of color blindness.

4. (Previously Presented) The system of claim 3, wherein the original samples represent original values, each original value associated with a content of a respective one of a plurality of predefined primary colors, the color blind compensated samples represent adjusted values, each adjusted value associated with a content of a respective one of the primary colors, and wherein the system further comprises a memory coupled with the processor and having stored therein the sets of original values and the first set of adjusted values.

5. (Original) The system of claim 4, further comprising means for combining the original samples of a single ordered set thereby generating a single sample for inputting into the memory as an address.

6. (Original) The system of claim 4, wherein the memory reads out a single sample for each input ordered set of original samples, and further comprising means for extracting from the sample output by the memory an ordered set of adjusted samples.

Claims 7-11 (Cancelled)

12. (Currently Amended) A method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

using a reference color image to generate at least one reference color signal associated with a color of the reference image;

generating ~~an~~ multiple adjusted ~~signal~~ signals from the reference color signal according to a multiple pre-generated tested generic ~~transform~~ transforms associated with a ~~tested~~ different type of color blindness, the ~~transform~~ transforms non-modifiable by a user of the display and the ~~transform~~ transforms not based on input from the user either before or after the user takes a color blindness examination;

applying the adjusted ~~signal~~ signals to the screen at the same time, the screen thereby displaying at the same time multiple color images each adjusted for ~~the first type one of the~~ different types of color blindness and displaying the multiple color images prior to testing the user for color blindness;

partitioning the screen into a plurality of sections, ~~wherein the adjusted reference image is displayed in only one of the sections~~ and displaying the multiple color images in the different sections;

accepting an input from a viewer ~~the user~~ as to whether the adjusted reference image is desirable selecting one of the multiple color images; and

~~if the adjusted reference image is desirable, using the tested transform as the first transform~~ for the selected one of the displayed multiple color images for applying to an input video signal to compensate for color blindness of the user.

13. (Cancelled)

14. (Currently Amended) A method for adjusting real time color images encoded in a video signal suitable for producing a display on a screen comprising:

decoding the video signal into at least one original color signal associated with a color of the original image;

digitizing the original color signal to produce at least one original value;

generating an adjusted signal from the original color signal according to a first pre-generated transform associated with a first type of color blindness by looking up in a memory an adjusted value corresponding to the original value, the transform not modified or modifiable by a user either before or after a user color blindness evaluation;

applying the adjusted signal to the screen, the screen thereby displaying color images adjusted for the first type of color blindness prior to conducting the user color blindness evaluation to determine a type of color blindness associated with the user;

selecting a set of coordinates for defining a color space;

selecting a type of color blindness;

characterizing the selected type of color blindness with respect to the coordinates as at least one discernible region in the color space;

selecting a color gamut adjustment that maps at least one region outside the discernible region into the discernible region, the adjustment including rotating at least a portion of one of the regions;

generating the original values and the adjusted values that perform the color gamut adjustment; and

storing the original values and the adjusted values in a look up table in the memory.

15. (Original) The method of claim 14, wherein the memory is an EPROM, and wherein storing is performed by burning in the EPROM.

16. (Previously Presented) The method of claim 14, wherein selecting a color gamut adjustment includes contracting a portion of the discernible region.

Claims 17-35 (Cancelled)

36. (Previously Presented) The video system of claim 1 wherein the compensation processor is structured to remap color points from the original signal by using a color lookup table.

37. (Previously Presented) The video system of claim 1 wherein the compensation processor is structured to remap color points from the original signal by using a color transformation algorithm.

Claims 38-42 (Cancelled)

Cancel claims 43-46.